

Claim 1 recites "[a]n IC card, comprising: a mica capacitor comprising a mica film, electrodes formed on both sides of said mica film, an antenna coil, and an IC chip ... " (emphasis added). Isaacson and Gallo do not teach or suggest such an IC card.

The last Office Action in the parent application asserts that Isaacson discloses an IC card including a capacitor comprising a substrate, electrodes formed on both sides of the substrate, an antenna coil and an IC chip. The Office Action admits that Isaacson fails to disclose a mica film substrate. The Office asserts that this deficiency of Isaacson is remedied by the teaching in Gallo of a security tag including a mica substrate. Notwithstanding these assertions, the combination of Isaacson and Gallo does not teach or suggest the invention of claim 1.

As stated above, the Office Action concedes that Isaacson fails to teach or suggest an IC card including a mica film substrate. Thus, in order to sustain a *prima facie* case of obviousness, Gallo must provide a mica film substrate. See MPEP 2143.03 ("[t]o establish *prima facie* case of obviousness, all the claim limitations must be taught or suggested by the prior art"). The Office Action asserts that Gallo discloses "a mica film in the form of a mica substrate (14) ... wherein said mica film (14) acts as a substrate." See June 17, 2003 Office Action at p. 2. This passage from the Office Action is not an accurate characterization of Gallo. Gallo refers only to a "dielectric substrate 14" or a "substrate 14," and never to "a mica substrate 14" or a "mica film 14." See, e.g., C4/L6-44. The only mention of mica in the context of the substrate of Gallo states the following: "[t]he substrate 14 is preferably formed of a thin film of polyester (Mylar), but other dielectric films, such as polyethylene, polypropylene, polyamid (Nylon) mica paper and cloth can also be used effectively as a substrate for the coil 12." C4/L10-14. There is no mention anywhere in Gallo of a mica film.

Mica paper and mica film are different materials. Mica paper is a composite sheet material, generally including particulate mica formed in an adhesive matrix. In the case of

Gallo, the matrix appears to be polyamid. A mica film, on the other hand, is formed of mica. Absent a teaching of a mica capacitor comprising a mica film including electrodes formed on both sides of the mica film in one or the other of Isaacson and Gallo, a *prima facie* case of obviousness cannot be made. Furthermore, both Isaacson and Gallo suggest preferable substrates. Isaacson identifies polyethylene as a preferred substrate material. C5/L28-29. Gallo identifies polyester as a preferred substrate material. C4/L10-11. Neither of the references suggests that mica film would be an advantageous substrate.

Moreover, the instant inventors, by creating an IC card including a mica capacitor comprising a mica film and electrodes formed on both sides of the mica film, obtained results that were both unknown to and unexpected by those of ordinary skill in the art. The instant specification indicates that "[t]he inventors perfected the present invention based on the discovery that by using as the capacitor a mica capacitor in which a mica film is used as a dielectric, the resonance frequency of the IC card can be stabilized as a result of the remarkably low water absorption rate of the mica film." P3/L1-6. In addition, the inventors have provided experimental data illustrating the superiority of mica film as a substrate. See Declaration of Kazuaki Suzuki, filed May 30, 2002. Mr. Suzuki's declaration demonstrates that mica has lower water absorption than all of the polymeric materials taught by Isaacson and Gallo. See Table. Mr. Suzuki's declaration also demonstrates that mica has superior resonance frequency stability than polyimide -- the polymeric material having water absorption properties most similar to mica. See Graph. Incidentally, the matrix material of the mica paper disclosed in Gallo, polyamide, has the greatest water absorption rate of any of the tested polymers.

The cited references fail to teach a mica capacitor comprising a mica film and electrodes formed on both sides of the mica film, and do not remotely suggest such a structure. Moreover, Applicants have demonstrated with experimental data that the invention

of claim 1 provides unexpected, superior results relative to the cited art. A *prima facie* case of obviousness has not been made, and even if such a case were made, it would be rebutted by Applicants' demonstrated unexpected, superior results. Absent some demonstrable, compelling motivation in the prior art to provide an IC card including a mica capacitor comprising a mica film and electrodes formed on both sides of the mica film, the pending claims must be allowed.

Claim 1 would not have been rendered obvious by Isaacson and Gallo. Claims 2 and 3 depend from claim 1, and thus also would not have been rendered obvious by the cited references. Accordingly, Applicants submit that claims 1-3 are allowable over the cited references.

Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable consideration and prompt allowance of claims 1-3 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



James A. Oliff  
Registration No. 27,075

Jacob A. Doughty  
Registration No. 46,671

JAO:JAD/hs

Date: March 3, 2004

**OLIFF & BERRIDGE, PLC**  
**P.O. Box 19928**  
**Alexandria, Virginia 22320**  
**Telephone: (703) 836-6400**

<p>DEPOSIT ACCOUNT USE AUTHORIZATION Please grant any extension necessary for entry; Charge any fee due to our Deposit Account No. 15-0461</p>
--